

The future of radio in Hill County

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A state-of-the art dispatch console is in place at the Hill County Sheriff's Office, set to start the operation of a new system that will allow seamless communication for emergency personnel.

"It allows us to control our system," Hill County Undersheriff Jamie Ross said in an interview last week. "The system will work for us, instead of us working with the system we have," Hill County Sheriff Don Brostrom added.

The console is a step in implementing radio communications intended eventually to allow communications across the state, with emergency responders able to use hand-held radios with microwave relays allowing communications anywhere within their area of operations and even anywhere in Montana. Hill County will be one of two — Kalispell will house the other — system management centers on the Interoperability Montana communications system's Northern Tier.

That system will stretch from the eastern border of Montana to the western border along the northern edge of the state. Brostrom, former chair of the technical committee on the interoperability project updating state radio communications, said the new Motorola dispatch console is the first of its model installed in the state. While providing immensely better abilities than the Motorola console it is replacing, it takes a fraction of the space.

The system was brought to the area without any cost to the local government, Brostrom added — a federal Homeland Security grant paid \$235,000 for the system with no local match required. Ross complimented Brostrom on his work to help set up the Hill County, and Northern Tier, part of the communications system, as well as his work in setting up the technical side statewide. That is especially true in helping Hill, and other counties, identify what groups would be part of the system and setting up the protocols for putting them in the system.

"Don has done most of this," Ross said. "He has worked hard, and is working very hard, for Hill County."

Futuristic communications systems

The new system might sound like something out of a science-fiction story. The console is based on Internet protocols, rather than the solid-state circuitry in the console it is replacing, which allows more use and more control of that use. Brostrom said this morning that in the old system, anyone using a channel would tie up that channel. Under the new Internet-protocol system, groups are defined that work much like how an Internet chatroom works.

Sheriff's deputies, Havre police or Havre firefighters, for example, can use a talk group to talk to other members of their agency, without having to go through the dispatcher. That, for example, would allow deputies 30 miles north of Havre to communicate with other deputies in the Hill County Sheriff's Office.

Another setting allows the different agencies to talk to their dispatcher, while the dispatcher also can monitor the agency-defined groups as necessary. Other defined groups, which the personnel can access by changing a setting on their radios, allow groups to work across agencies. For example, if a hazardous material spill required representatives of the Hill County Sheriff's Office, Havre Police Department, Havre Fire Department and Havre Public Works Department to respond, they can switch to a setting that would allow them to hear each other on the same channel — the channel automatically assigned by the dispatch computer. Other settings would allow different agencies to work across jurisdictions. If, for example, a situation required Hill County and Blaine County law enforcement, fire departments and medical responders to work together, settings are available to allow that.

Whereas in the old system each user tied up a resource, in the new system 100 users might have to respond to a situation and could communicate in one of these groups while tying up only one resource, Brostrom said.

Close to implementation

The system is essentially ready for implementation in Hill County, although it will not be fully operational until Motorola and Harris Stratex Networks, the company overseeing the microwave equipment in the system, finish the testing and approval. The new system is being used in a test mode in Hill County, and Brostrom said

he hopes it will be fully operational by this fall. He said the fleet mapping — the process of identifying all users and potential users and assigning them codes to be used in the system — is complete in Hill County. Other counties in the Northern Tier of the system also are working on their fleet mapping, with the work for the Blaine County Sheriff's Office essentially done.

Brostrom said some final work, such as perfecting the Hill County system's connection with the Helena master control center, is still under way. Testing in Hill County is being completed, with the areas tested by Motorola showing better-than-required reception — the goal is 95 percent accessibility, and the average of the areas tested is better than 99.8 percent, Brostrom said.

Preventing system failure or problems

Ross said the system also has a number of fail-safes built in. One is that the system is "backward capable" — even if groups do not have the highest-end Motorola radios which will be used by most on the system, as long as their equipment is "narrow-band" capable, falling under recent regulations to define radio bands, they can get on, he said. The microwave-relay system also is built to provide backup capability to at least have some access even if part of the system, such as the relay on Mount Royal in the Sweet Grass Hills, were to go out.

Brostrom said the Hill County site has another safety level that most counties do not — a National Guard line allows a backup from the county dispatch console to the Helena master site. If all accessible relays were to go out, the system still can use the old-style radio repeaters used previously, Brostrom said. "There is a minimum of four levels of fail-safes," Brostrom said.